

CLAIMS

Claims 1-27 (canceled)

Claim 28 (currently amended): A method for forming a ~~reinforced~~ hydroform, comprising:

providing a first tubular structure having an outer surface;

disposing an adhesive structural material upon the outer surface with an applicator wherein the adhesive structural material includes epoxy;

hydroforming the first tubular structure while the adhesive structural material is located upon the outer surface thereby forming a hydroformed contour of the first tubular structure with the adhesive structural material located upon the contour.

Claim 29 (previously presented): A method as in claim 28, further comprising:

providing a second tubular structure having an inner surface defining a bore;

and

adhering the adhesive structural material to the inner surface of the second tubular structure.

Claim 30 (previously presented): A method as in claim 29 wherein the step of hydroforming occurs while at least a portion the first tubular structure and the adhesive structural material are located within the open bore of the second tubular structure.

Claim 31 (canceled)

Claim 32 (canceled)

Claim 33 (currently amended): A method as in claim ~~28~~ 32 wherein the expandable material is epoxy-based.

Claim 34 (previously presented): A method as in claim 29 wherein the second tubular structure is metal.

Claim 35 (previously presented): A method as in claim 34 wherein the second tubular structure is formed of aluminum or steel.

Claim 36 (previously presented): A method as in claim 28 further comprising:
assembling the first tubular structure to a vehicle as a portion of a frame of the vehicle.

Claim 37 (canceled)

Claim 38 (previously presented): A method as in claim 28 wherein the adhesive structural material is activated for curing at a temperature in the range of about 148.89 °C to about 204.44 °C.

Claim 39 (previously presented): A method as in claim 29 wherein the adhering step is performed prior to the step of hydroforming.

Claim 40 (currently amended): A method for forming a ~~reinforced~~ hydroform, comprising:

- providing a first structure having an inner surface defining an open bore;
- providing a second structure having an outer surface;
- positioning an adhesive structural material within the open bore of the first structure between the inner surface defining the bore and the outer surface of the second structure; and

- hydroforming the first structure and second structure while at least a portion of the structural material is located in the open bore wherein the hydroforming includes injecting a liquid under pressure into the bore such that an outer surface of the first structure assumes a shape of a mold.

Claim 41 (previously presented): A method as in claim 29 further comprising:

adhering the adhesive structural material to the inner surface defining the bore and to the outer surface of the second structure.

Claim 42 (previously presented): A method as in claim 40 wherein the first structure is tubular.

Claim 43 (previously presented): A method as in claim 40 wherein the second structure is tubular.

Claim 44 (previously presented): A method as in claim 40 wherein the step of positioning the adhesive structural material within the open bore of the outer tubular structure includes disposing the adhesive structural material upon the outer surface of the inner tubular structure.

Claim 45 (previously presented): A method as in claim 40 wherein the adhesive structural material is expandable at a temperature greater than its glass transition temperature of the expandable material.

Claim 46 (currently amended): A method for forming a reinforced hydroform automotive vehicle frame structure, comprising:

- providing an outer elongated metal tubular structure having an inner surface defining an open bore;

- providing an inner elongated metal tubular structure having an outer surface;

- applying an adhesive structural material to at least one of the inner surface defining the open bore and the outer surface of the inner tubular structure;

- introducing the adhesive structural material within a space defined between the inner surface of the outer tubular structure and the outer surface of the inner tubular structure; and

- hydroforming the outer tubular structure and the inner tubular structure with the adhesive structural material therebetween to form the automotive vehicle frame structure and for forming a first hydroformed contour in the inner tube and a second hydroformed contour in the outer tube wherein the first hydroformed contour is

adjacent to and corresponding with the second hydroform contour and at least a portion of the expandable material is located between the first hydroformed contour and the second hydroformed; ~~and~~.

Claim 47 (currently amended): A method as in claim 46 further comprising:

bonding the adhesive structural material ~~thermally activated polymeric material~~ to at least one of the tubular structures wherein the bonding is performed prior to the step of hydroforming.

Claim 48 (new): A method as in claim 47 wherein the hydroforming includes injecting a liquid under pressure into the bore such that an outer surface of the first structure assumes a shape of a mold.

Claim 49 (new): A method as in claim 48 wherein the adhesive structural material is epoxy based.

Claim 50 (new): A method as in claim 29 wherein the hydroforming includes injecting a liquid under pressure into the bore such that an outer surface of the first structure assumes a shape of a mold.